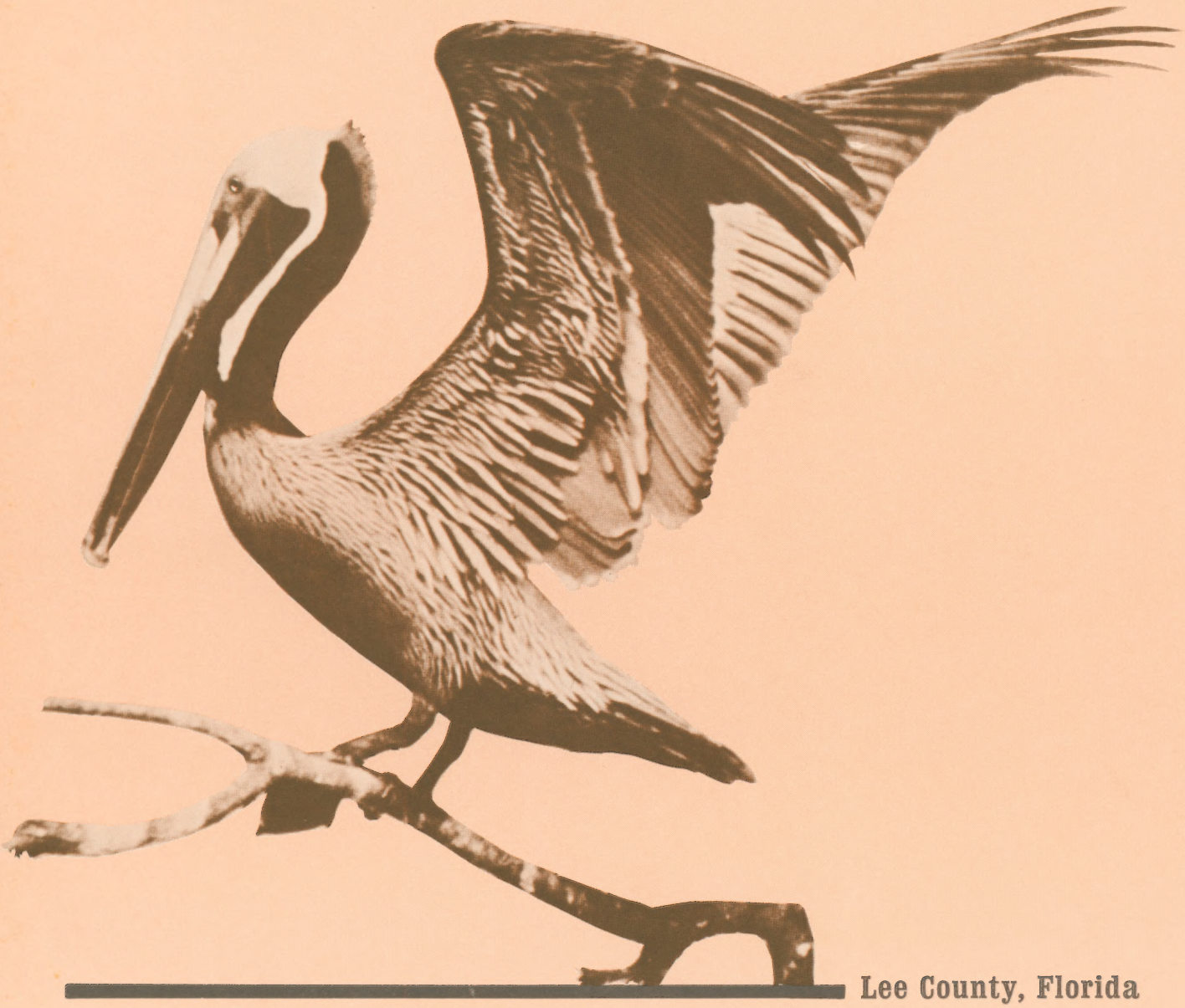
J. N. "Ding" Darling
National Wildlife Refuge



Lee County, Florida

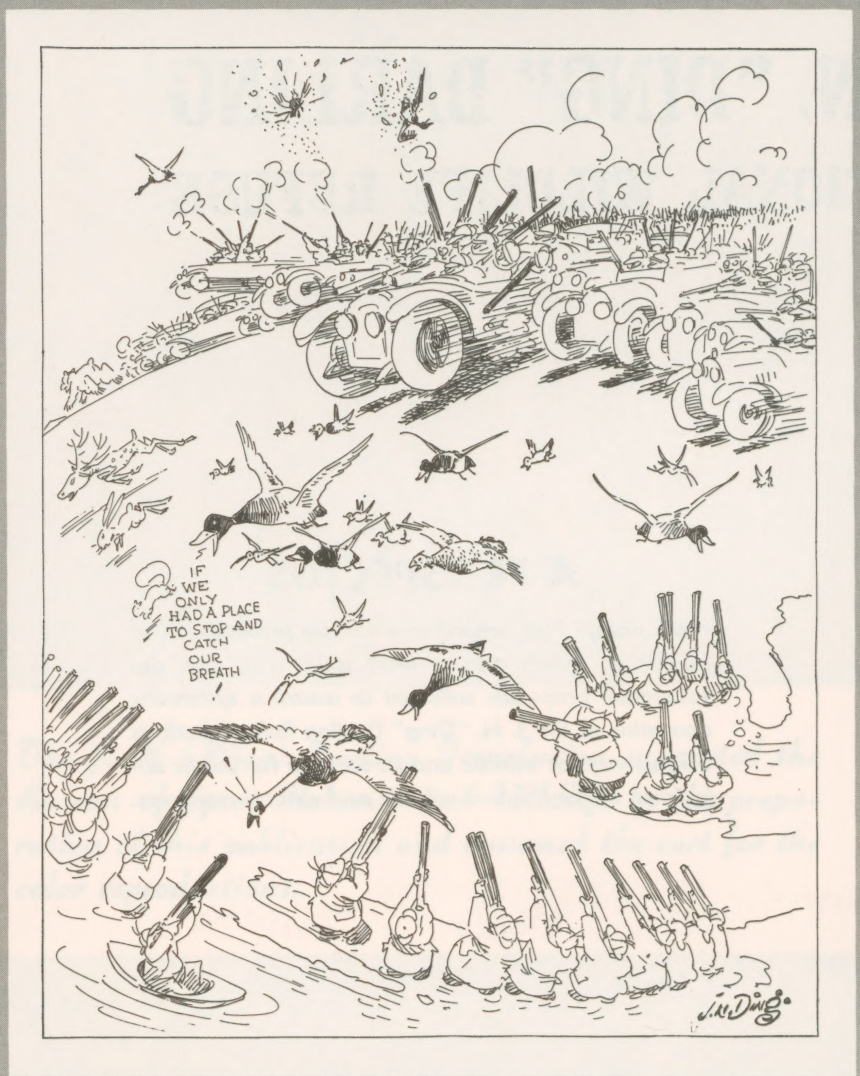
The J. N. (Ding) Darling Foundation supported the Bureau of Sport Fisheries and Wildlife in the preparation of this publication and assumed the cost for the color reproductions.

J. N. "DING" DARLING
NATIONAL WILDLIFE REFUGE

A PROSPECTUS

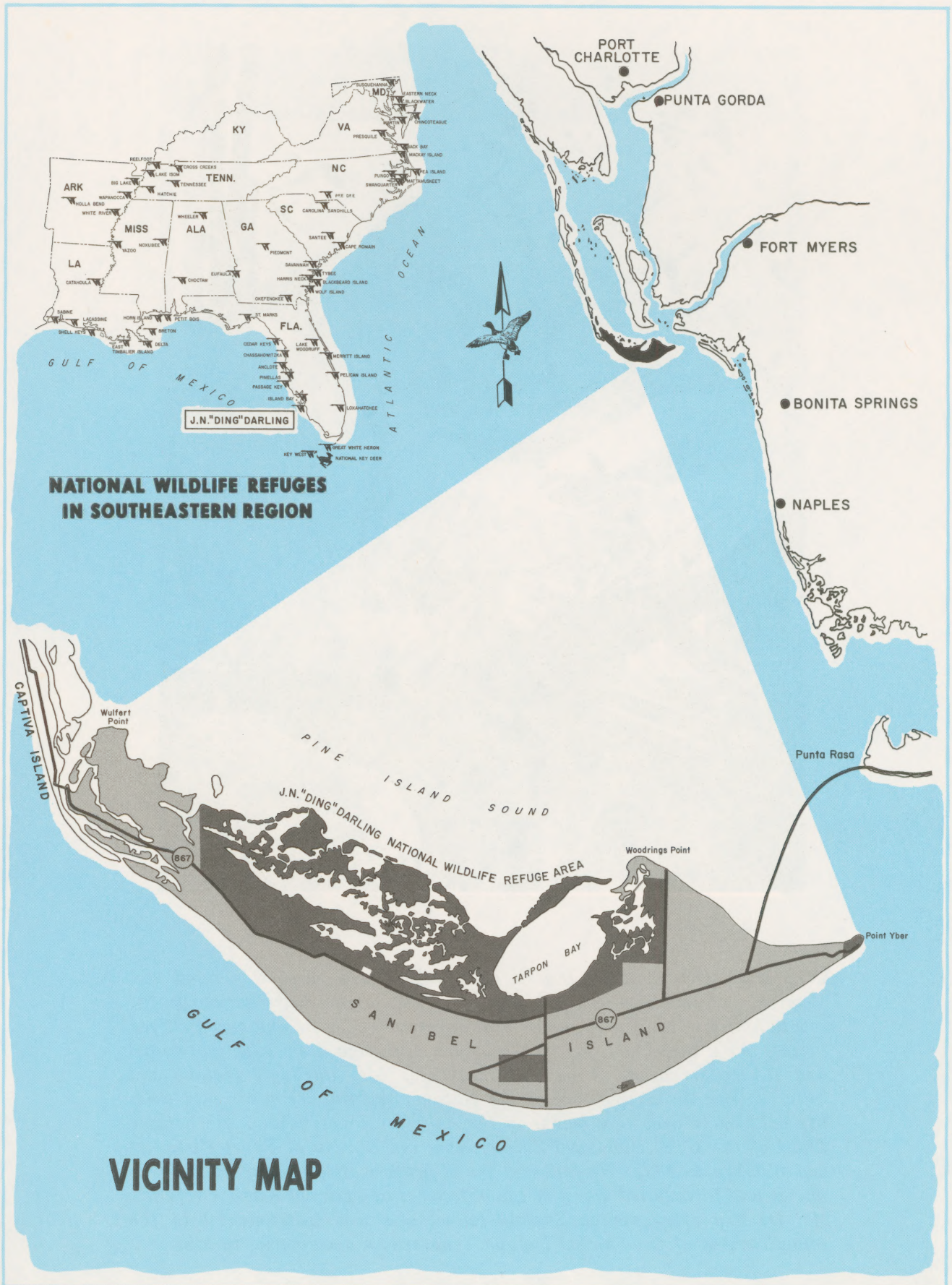
This Concept Plan embodies a concise presentation of objectives, broad management guidelines, and development proposals sufficient to assure a systematic operation of the J. N. "Ding" Darling Refuge both as a sanctuary for wildlife and as an area for public enjoyment of the fish and wildlife and natural resources.

U. S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



"WANTED: MORE AND BETTER GAME REFUGES." The objectives of the J. N. "Ding" Darling National Wildlife Refuge portray a fitting memorial to Mr. Darling and his achievements in natural resource conservation, his concern for preservation and protection of wildlife, and his dedication to the national wildlife refuge system. Mr. Darling often is called "the best friend ducks ever had." His cartoons, visualizing the trials and tribulations of waterfowl and other wildlife and the destruction of the Nation's natural resources, rocketed him to national prominence and syndication in 130 daily newspapers.

THE MAN OF VISION. Jay N. (Ding) Darling's perceptive mind and eloquent pen endeared him to newspaper readers and conservationists for nearly half a century and gained him international fame and two Pulitzer prizes. As a cartoonist, his most popular drawings dealt with waterfowl and the conservation of natural resources. Mr. Darling's insight and concern over the destruction of the Nation's natural resources and wildlife led him to become a leader in the fight for conservation. He became Chief of the U. S. Biological Survey, now the Bureau of Sport Fisheries and Wildlife, in 1934. He fathered the Migratory Bird Conservation Committee and formulated many of the objectives of national wildlife refuges. Mr. Darling often visited Sanibel Island and was instrumental in the establishment of the Sanibel Refuge, renamed as a memorial to him.


PORT CHARLOTTE
PUNTA GORDA
FORT MYERS
BONITA SPRINGS
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FLA.
GULF OF MEXICO
ATLANTIC OCEAN
J.N."DING"DARLING
NATIONAL WILDLIFE REFUGES IN SOUTHEASTERN REGION
CAPTIVA ISLAND
Wulfert Point
PINE ISLAND SOUND
J.N."DING"DARLING NATIONAL WILDLIFE REFUGE AREA
867
Woodrings Point
Punta Rasa
Point Yber
TARPON BAY
SANIBEL ISLAND
GULF OF MEXICO
VICINITY MAP

PREFACE

With our Nation facing a rationed tomorrow, the conservation of our natural resources requires public understanding, appreciation, and financial support. This generation must implement, both for ourselves and for posterity, the conservation ideals envisioned by J. N. "Ding" Darling. Wild animals and birds and fish and other aquatic life long have furnished food, recreational opportunities, and pleasure to the world's people. We can continue to enjoy this great segment of our American heritage only through wise use and thoughtful development of the fish and wildlife resource and its habitat.

The Bureau of Sport Fisheries and Wildlife bears the Federal responsibilities for the protection and management of migratory birds and endangered species and for the preservation of their habitat. National wildlife refuges perform an integral role in the attainment of Bureau objectives. The J. N. "Ding" Darling Refuge, administered under the authority of the Migratory Bird Treaty Act, Migratory Bird Conservation Act, Migratory Bird Hunting Stamp Act, and the Rare and Endangered Species Act, occupies a special place in the wildlife refuge system.

The J. N. "Ding" Darling Refuge, established October 31, 1945, lies in a local atmosphere of esprit de corps that supports the preservation of natural resources of Sanibel and Captiva Islands. The proposed refuge boundary encompasses approximately 4,700 acres located within a 20,000-acre area of Federal, State, and private holdings that is closed by Presidential Proclamation to the taking or molesting of migratory birds. The refuge projects a cooperative endeavor between landowners and the Bureau of Sport Fisheries and Wildlife to restore and maintain the islands' natural beauty and wildlife resource. The development and management of the J. N. "Ding" Darling Refuge will: (1) provide a fitting memorial to J. N. "Ding" Darling; (2) further the advancement of conservation education; (3) aid in the preservation and distribution of migratory birds; (4) maintain and improve feeding, nesting, and rearing habitat for numerous shore birds, wading birds, and waterfowl; (5) preserve habitat essential to the area's rich marine resource; and (6) provide recreational opportunities for all those who enjoy conservation education, nature study, sightseeing, fishing, shelling, and other out-of-door activities.

Estimated values of existing development and acquisition, including State lands to be exchanged for other Federal lands, amount to $600,000. Future costs of development and acquisition account for an estimated $1,500,000.

THE PAST

When the early settlers arrived, Sanibel overflowed with wildlife. Colonial birds and shore birds abounded the beaches and island flats; waterfowl of many species wintered on the bays and sloughs; and Florida panthers, deer, bobcats, and other wild creatures roamed the island ridges.

Early in America's history, Caloosa Indians inhabited Sanibel Island. Later Spanish pirates headquartered on Sanibel--then called Santa Isabella--and her sister island Captiva. Black Caesar, a henchman of Florida's more notorious Jose Gaspar or Gasparilla, operated from Point Ybel, the present location of the Sanibel lighthouse. Just to the north of Sanibel, Gasparilla maintained his female captives on a small island, thus the modern name Captiva Island.

Reportedly, Black Caesar and Gasparilla became severe enemies, and Gasparilla banished Black Caesar from the area forever. Shortly thereafter, Gasparilla disappeared, and both Sanibel and Captiva lay ready for new explorers.

As pioneers moved down the Florida peninsula and located on lands suitable for agriculture, they rediscovered Santa Isabella to rename her Sanibel. The island flowered into an area of agriculture for castor beans, lime and other

THE LAST FERRY. The Sanibel ferry supplied the only public transportation between Sanibel-Captiva and the mainland until 1964.

THE GREAT MACHINES SEEMED FAR AWAY. Birds, seashells, and scenery inherently constitute Sanibel Island's most important products.

forms of citrus, avocadoes, tomatoes, pepper, and squash. Steamers transported the produce to nearby Fort Myers or to Tampa and Key West. The farming operations thrived until 1926 when a severe hurricane inundated the island, destroyed the vegetable and citrus crops, and eroded the once fertile fields. Farming operations then ceased, and agriculture never again regained a significant status.

Sanibel's economy changed with an increased public awareness of its exquisite seashells, fabulous sport fishing, and the remote quaintness of beauty, vegetation, and wildlife. The Sanibel-Captiva Islands prospered through a gradual increase in tourism. Sanibel became a favorite vacation site for wildlife conservationists, naturalists, and birdwatching enthusiasts. Organized groups and individuals visited the island to study bird life and the island's ecology.

After World War II, Sanibel's tourist trade, spurred by the island's still unspoiled features and its outstanding shelling opportunities, increased rapidly. However, limited access to the island by boat or ferry restrained construction to support the influx of vacationers, and development then had not affected seriously the island's wildlife values.

GONE FROM THE SANDS OF SANIBEL. The deer, panther, or bobcat no longer reside on Sanibel or Captiva Islands.

THE PRESENT

The Migratory Bird Conservation Committee approved the acquisition of lands on Sanibel Island for a national wildlife refuge January 27, 1943. With the support of local residents, President Truman, by proclamation in 1947, closed all lands on Sanibel, the southern tip of Captiva, and certain adjacent water areas to the taking or molesting of migratory birds. The refuge now consists of approximately 575 acres of Bureau lands, 1,900 acres leased from the State of Florida, and 54 acres operated under permit from the U. S. Coast Guard. The closed areas incorporate Federal, State, and private lands that encompass homes and businesses.

THE SHELTERED NEST. In addition to the many colonial birds that now nest on Sanibel Island, the brown pelican and other species can find numerous potential rookery sites on the refuge.

"THE OLD ORDER CHANGETH. . ." The Sanibel Causeway, constructed in 1964, operates on a toll basis and provides a scenic drive onto the island from the mainland.

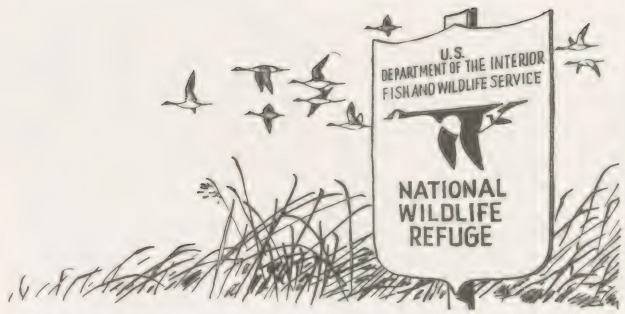
USURPATION OF THE MANGROVES. The filling of mangrove swamps and the destruction of other wildlife habitat for homes and businesses necessitate additional Federal ownership on Sanibel to protect and preserve the Island's values.

From the beginning, the island's visitors and residents have supported enthusiastically wildlife and habitat protective measures. The Sanibel causeway, constructed in 1964, replaces the old ferry system and now encourages more visitors and permanent residents to come to Sanibel and Captiva Islands. The isolation once enjoyed by Sanibel no longer exists. New homes, motels, restaurants, shopping centers, and other local businesses now occupy lands where tropical vegetation once grew. Future developments threaten wildlife habitat and the natural environment of the island; however, not all development adversely affects wildlife habitat. Excavation for fill material necessary for building construction provides more open fresh water for waterfowl. Mosquito control work, with its interlacing ditches and impoundments, often produces additional waterfowl and wading bird habitat.

The island's objectives project a program of development whereby wildlife and its habitat and the natural aspects of the island are retained. The refuge development and management programs endorse these objectives. The local populace, J. N. "Ding" Darling Foundation, other conservation groups, and individuals cooperate continuously with the Bureau to obtain refuge objectives. Waterfowl, colonial birds, shore birds, alligators, and other indigenous wildlife have responded favorably under refuge protection and management.

PLANS FOR THE FUTURE

The refuge possesses the unique physical and biological characteristics necessary to become a fitting memorial to J. N. "Ding" Darling and a wildlife area of major importance in the attainment of Bureau objectives. More than 300 different species of native plants grow on Sanibel Island, and at least 240 species of native and migratory birds reside or visit here. Sanibel hosts several endangered wildlife species; provides excellent feeding and nesting habitat for waterfowl, colonial birds, and shore birds; and maintains unique plant communities. With its natural attributes and by virtue of Sanibel's many distinguished and cooperative residents and visitors, the J. N. "Ding" Darling National Wildlife Refuge will provide a place for quality nature oriented public enjoyment of both local and national significance.



NOW WHERE'S THAT BSF&W SIGN . . .? The redbreasted merganser is one of a dozen or more species of ducks that winter in the bays and interior waters of the refuge.

TO PRESERVE AND PERPETUATE. The roseate spoonbill is one of a dozen or more rare, endangered, or threatened species that visit or reside on Sanibel Island.

THE RESOURCE. Development and management of the refuge will assure preservation of nesting sites and feeding and rearing habitat for waterfowl and other water birds.

REFUGE OBJECTIVES

The national wildlife refuge system is dedicated to developing and perpetuating a national program of wildlife conservation and habitat preservation. The J. N. "Ding" Darling Refuge, as an integral part of this system, maintains the following objectives:

1. To establish a fitting memorial to J. N. "Ding" Darling, one of the fathers in America's conservation movement.
2. To protect and preserve a portion of Sanibel Island's unique subtropical vegetative complex.
3. To further the advancement of conservation education through the application of scientific principles and wise use concepts.
4. To preserve and maintain feeding and nesting habitat for the numerous shore birds and wading birds in the Sanibel Island area.
5. To render special attention toward protection and preservation of endangered or threatened wildlife species.
6. To maintain and improve the refuge's land and water resources for waterfowl habitat.
7. To aid in the distribution of migratory birds for greater public enjoyment.
8. To preserve the salt water bay and mangrove habitat essential for shellfish and other marine resources of commercial and recreational value.
9. To provide nature oriented recreational opportunities which are compatible with optimum wildlife population levels and the retainment of the island's natural surroundings.
10. To continue the close working relationships with the various Federal, State, county, and private agencies concerned with the conservation of the island's natural resources.
11. To aid in the protection of all migratory birds on Sanibel and Captiva, as prescribed in the closing order.

"... THE LAST STEPS OF DAY." Pelicans, gulls, and many other marsh and water birds occur all seasons of the year on Sanibel Island.

THE STRANGLER. Plants on Sanibel offer opportunities for scientific study and intriguing scenes, as the twining of a strangler fig, for sightseeing and photographing.

12. To cooperate with the local law enforcement personnel in the protection of indigenous wildlife.

13. To cooperate and assist in the prevention of community developments adversely affecting wildlife objectives for Sanibel and Captiva Islands.

WHITE SAND AND SEA OATS. The preservation of Sanibel's plant communities, white sand beaches, and inherent beauty constitute important refuge objectives.

WILDLIFE MANAGEMENT GOALS

The refuge provides wintering habitat for migratory ducks and other birds at the southern end of the Atlantic Flyway. Mottled ducks, black-necked stilts, gallinules, herons, egrets, pelicans, anhingas, and other intriguing birds nest here. Alligators reside in the impoundments and other water areas. The loggerhead sea turtles appear on the beaches to nest during the spring and summer months.

Management goals relate the biological and physical potentials of the refuge to current and projected wildlife and recreational needs, and serve as guidelines for development and management planning.

LEAVE A PLACE FOR ME. As a primary objective, the "Ding" Darling Refuge provides nesting, rearing, and feeding habitat for wading birds, waterfowl, and other wildlife.

Wood Ibises

Marsh and Water Birds

Endowed with a great variety of species ranging from the visiting great white heron, roseate spoonbill, and bald eagle to the ever-present brown pelicans, ibises, egrets, rails, and numerous shore birds, the refuge guarantees Sanibel's future visitors an access to an appealing and renewable resource of bird life. Development and management practices will encourage the establishment and maintenance of large nesting populations of the many species of marsh and water birds at Sanibel. Refuge management also includes the improvement, maintenance, and preservation of their feeding and rearing habitat sufficient to increase populations.

Rare, Endangered, and Threatened Species

"To develop and manage for rare and endangered species" constitutes one of the top Bureau objectives and holds the same high priority for the "Ding" Darling Refuge. Sanibel Island provides permanent or part-time residency and habitat for the brown pelican, great white heron, wood ibis, roseate spoonbill, bald eagle, osprey, peregrine falcon, mangrove cuckoo, limpkin, swallow-tailed kite, roseate tern, American alligator, and sea turtle. Refuge development, management, and protective programs will favor these species to increase local population and visitations to maximum numbers compatible with habitat conditions.

King Rail

Waterfowl

Although the peak populations of ducks are relatively low, so many as a dozen different species may occur at Sanibel. To accomplish a more equitable distribution and provide for increased public enjoyment of the Nation's waterfowl resource, the Bureau will develop and manage the "Ding" Darling Refuge to encourage annual wintering populations of about 15,000 ducks aggregating from a variety of species. Mottled ducks and other nesters will receive special attention in order to increase the breeding populations.

Pintails

Other Birds and Animals

Sanibel Island hosts a wealth of both migratory and resident song birds. Marsh rabbits, raccoons, and otter reside on the refuge wherever they find suitable environment. Management goals are to maintain for aesthetic values populations of these species sufficient for frequent viewing by the visiting public. The refuge will attain another of its objectives by provision of suitable habitat for these numerous forms of wildlife.

Marine Resources

The extensive mangrove swamps, salt water bays, and flats of the "Ding" Darling Refuge comprise a rich marine environment which provides spawning, nursery, and feeding grounds for fish, shrimp, shellfish, and other marine organisms. The marine resources form the base not only of the area's commercial fishing industry, but also of recreational uses, such as sport fishing and shelling, that contribute significantly to Sanibel's attraction to residents and visitors. One of the important management goals of the refuge is the preservation of this marine environment in its natural condition.

THE BREAKTHROUGH. The provision of nesting and rearing habitat for Florida ducks and other marsh nesters constitutes an important refuge objective.

RECREATIONAL AIMS

Objectives of the Bureau of Sport Fisheries and Wildlife stress equitable distribution of waterfowl and other wildlife and the provision for public enjoyment of these resources on national wildlife refuges. As a part of our total natural environment, wildlife contributes substantially to human progress and the ways of life. The number of visitors on national wildlife refuges exceeds 14 million annually and continues to increase. Envisioned recreational use on the J. N. "Ding" Darling Refuge will amount to 500,000 visitors annually for conservation education, nature study, shelling, birdwatching, fishing, and other nature oriented activities.

PROTECTION FROM MAN IS PROTECTION FOR MAN. Visitors cherish the undeveloped beach where each high tide delivers a new supply of seashells.

Conservation Education

The people of Sanibel Island, including its visitors, demonstrate a keen interest in wildlife and habitat management programs and the conservation of natural resources. To enhance and satisfy this interest, the refuge's conservation education program calls for a suitable wildlife interpretive center and on-site interpretive facilities to expand the existing programs with the following themes:

1. J. N. "Ding" Darling - Subtheme: The Man, The Conservationist, The Cartoonist.
2. Refuge identification - subtheme: Bureau of Sport Fisheries and Wildlife, the J. N. "Ding" Darling Foundation, Lee County Mosquito Control District, the people of Sanibel and Captiva.
3. J. N. "Ding" Darling Refuge — subtheme: location in the Flyway, history and present status, responsibilities and objectives, recreational opportunities.
4. Rare and Endangered Wildlife Species — subtheme: species found on Sanibel and Captiva, species found in other parts of Florida, species found elsewhere in the United States.
5. Bird life on Sanibel — subtheme: identification, life history, community importance, present status.
6. Waterfowl — subtheme: identification, migration history, resident species, present status.
7. Other wildlife — subtheme: species, history, and present status.
8. Plant life on Sanibel — subtheme: identification, ecological associations, economic values, present status.
9. Habitat management — subtheme: nesting and rearing, wintering, migration.
10. Wildlife management — subtheme: hunting, fishing, banding, predator control, techniques, regulations.

11. Marine resource — subtheme: commercial and game fish, shellfish, habitat requirements identified with the Sanibel area.
12. Shells of Sanibel — subtheme: identification, varieties, art of collecting, preparation of specimens.
13. National Wildlife Refuge System — subtheme: history and present status, types of refuges, objectives, and recreational opportunities.

The refuge's conservation education program also includes guided tours for various civic and youth groups, information for local news media on fish and wildlife activities, slide talks and lectures to interested groups, and demonstration of proper resource management coordinated with economic benefits to the community.

"WHERE THE GRAY BEACH GLIMMERING RUNS . . ." Sanibel Island offers the photographer, sightseer, and nature enthusiast many intriguing views.

Sightseeing, shelling, nature study, and photography

The refuge's impressive array of bird life, plant communities, seashells, and aquatic life attracts tourists nationwide and a large number of other individuals and groups. Strategically located observation towers, photographic blinds, and nature trails and drives through representative sections of refuge woodlands, marsh and water areas, and other scenic sites will afford opportunities for "close-up" study, sightseeing, and photographing of plants and wildlife in their natural habitat. The protection from development of the refuge's beach areas and shellfish habitat assures a continuation for shelling opportunities on Sanibel Island. The interior portion of the Lighthouse Point area, zoned as "open space," offers the sightseer and naturalist opportunities to select their own pleasures from the natural resources.

Fishing, Crabing, Oystering

A day on the refuge may be incomplete without experiencing the catch of a salt-water fish. An oyster opened at the site of the catch and spiced with salt from ocean water offers a palatable pleasure never to be forgotten. A crab supper eaten immediately following the catch provides a vacationer's delicacy. Refuge objectives provide for these wildlife oriented activities.

WILDLIFE INTERPRETIVE CENTER AND NATURE DRIVE

PROPOSED DEVELOPMENT

Development entails acquisition of additional lands, construction of administrative and maintenance buildings, improvement of wildlife habitat, and installation of public use facilities. The widespread private developments occurring on the island necessitate the establishment of a permanent refuge boundary to protect wildlife and preserve habitat. When fully developed, the J. N. "Ding" Darling Refuge will contain approximately 800 acres of brackish water impoundments, 1,000 acres of bay waters, 100 acres of fresh-water marsh and impoundments, 10 acres of beach, 500 acres of wooded uplands, and 2,300 acres of mangrove swamps.

Bald Eagle

Land Requirements

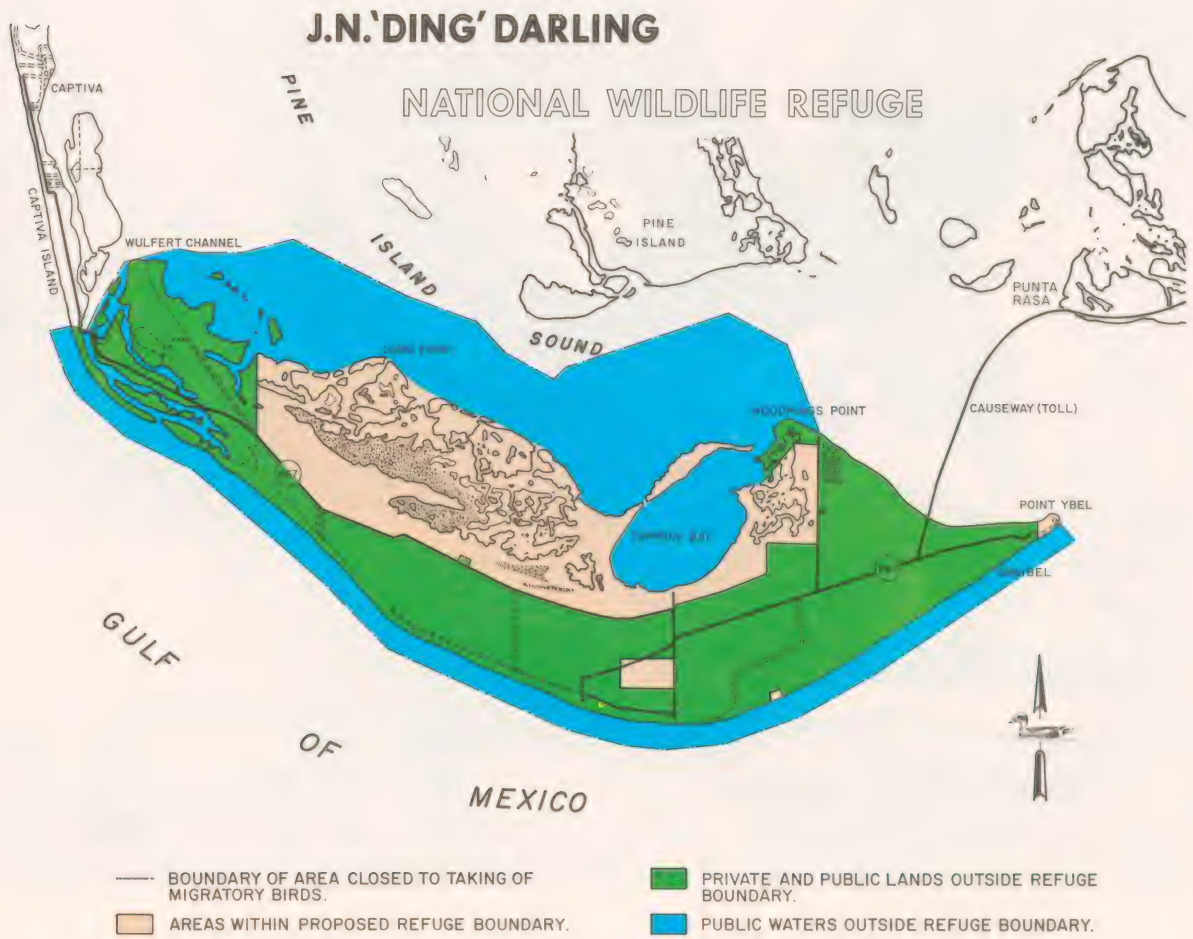
In addition to the 100-acre Bailey Tract and the 3.3-acre Perry Tract now owned in fee and the 54-acre U. S. Coast Guard Lighthouse Tract, the proposed boundary extends from Kesson Bayou east along Highway 867 to the Tarpon Bay entrance road and then continues along the mangrove line to connect with and include the State-owned lands on the east side of Tarpon Bay. The exchange of other Federal lands in Florida for State-owned lands on Sanibel will accomplish the majority of acquisition for the refuge.

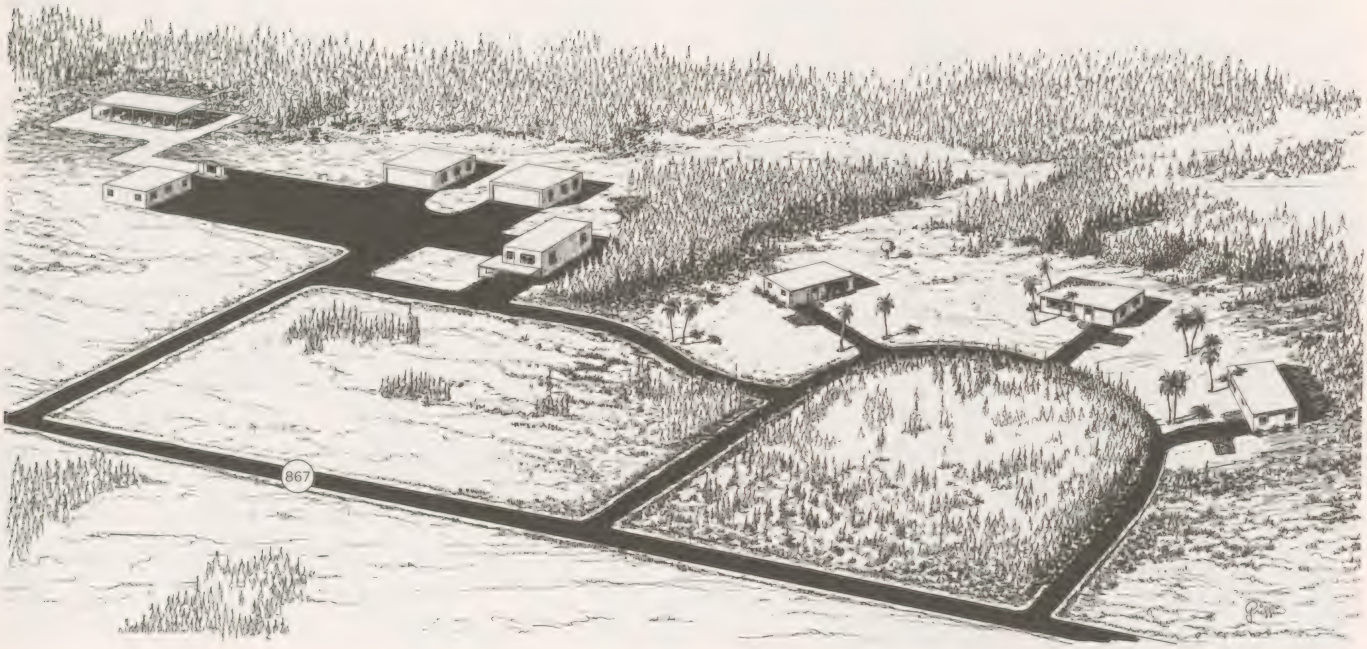
Proposed acquisition comprises lands necessary for additional wildlife habitat, refuge building sites, a buffer zone to protect wildlife habitat, a wildlife interpretive center, and a drive-around nature trail.

Facilities for Operation

The protection of wildlife, the refuge's conservation education program, the correlation of public recreation with other refuge programs, the manipulation of wildlife habitat, and other refuge operational activities necessitate the following developments:

1. Three residences.
2. Shop and service building with small field office.
3. Closed equipment storage building.
4. Open equipment shed.
5. Storage warehouse.
6. Paint and oil house.
7. Associated structures and utilities.





Wildlife Habitat

The refuge's land and water areas must support concentrations of migratory duck and other wildfowl during the winter months; breeding and rearing populations of resident waterfowl and colonial and marsh nesting birds; and representative populations of numerous other wildlife including several rare or endangered species, non-game birds, alligators, and furbearers. Required development includes:

1. Dikes to complete exterior levees surrounding the Bailey Tract.
2. Excavation of 50 percent of Bailey Tract to provide four-foot water depths—a cooperative effort with county at no cost to development program.
3. "Cut and fill" of 50 percent of Bailey Tract to provide manageable marsh and shallow water areas.
4. Water control structures in nature drive levee to permit intake of bay waters and drainage of impoundments at selected levels of from 0 to 2 feet water depths, control of water levels and salinities, and the exchange of water and marine organisms between impoundments and adjacent bays.
5. Water control structures to permit optimum drainage of island runoff into the nature drive impoundments.
6. Water supply for Bailey Tract impoundment.

AIR VIEW. Land use responsibilities often necessitate development to increase carrying capacity and produce a variety of habitat for waterfowl and other wildlife.

Recreation and Conservation Education

The planned public use program on the J. N. "Ding" Darling Wildlife Refuge demonstrates a correlation of compatible human activities with wildlife objectives and habitat preservation. Each refuge unit provides for both people and wildlife in a manner to preserve natural surroundings. Although the refuge constitutes an important attraction, a visit on the refuge may be incidental to many tourists coming to Sanibel and Captiva Islands. A visit to the refuge may include only a tour of the nature drive, a few hours on the beach looking for shells, an early morning fishing endeavor on the pier, or just a "look-and-see" trip. Public use on the refuge increased from 125,000 in 1960 to 269,000 in 1965. Developments required to accommodate the anticipated 500,000 visitors annually include:

1. Wildlife interpretive center building with refuge office space included.
2. Drive-around nature trail with two shell-surfaced lanes for one-way traffic, pull-outs, interpretive facilities, and observation tower and platforms.
3. Ramp and canoe trail leading from nature trail.
4. Visitor parking areas at the wildlife interpretive center, Lighthouse Tract, and Bailey Tract observation tower.
5. Public restrooms at the wildlife interpretive center and Lighthouse Point.
6. Reconstruction of the Bailey Tract observation tower and nature trail.
7. Fishing pier at Lighthouse Point of a size to accommodate 50 people at one time.
8. Interpretive facilities, signs, and trails at each of the four tracts.
9. Entrance, informational, and directional signs as needed.
10. Chain link fence or other type enclosure around lighthouse and other Coast Guard buildings to facilitate opening these areas to the general public during certain hours and seasons.
11. Restoration and interpretation of Coast Guard buildings.
12. Concession building and facilities at Tarpon Bay.

PELICANS IN PROFILE. The viewing of wildlife in its natural habitat gives people an appreciation and understanding of wildlife values.

HERE IS YOUR LAND. The Bureau of Sport Fisheries and Wildlife manages Federal lands for the protection and preservation of wildlife and for public enjoyment of natural resources.

BENEFITS

The preservation of natural resources for posterity and knowledge gained during a refuge visit constitute immeasurable benefits that cannot be assessed a monetary value. The refuge demonstrates sound land use practices and wildlife conservation. It offers opportunities for individual study and organized instructions that promote understanding and appreciation of natural resource conservation. The refuge is an industry that employs local people and purchases materials and contractual services in the community. Preservation, protection, conservation, utilization, visitor education and enjoyment, and management of wildlife and its habitat signify both tangible and intangible values rendered by the J. N. "Ding" Darling Refuge. Specifically, the refuge will:

1. Assure habitat and protection for several rare or endangered wildlife species.
2. Assure the continued existence of representative plant communities on Sanibel Island.
3. Contribute to the preservation of the migratory bird resource.
4. Aid in the preservation of the marine and other wildlife resources.
5. Provide conservation education opportunities and wildlife oriented recreational facilities.
6. Afford an opportunity for the public to enjoy the fish and wildlife resources.
7. Enhance the local economy.
8. Provide for a public use of the refuge valued at $500,000 annually, an amount based on the anticipated visitor load of one-half million visits to the refuge each year.

ESTIMATED ANNUAL OPERATIONS COST

	Present		Projected	
	Dollars	Man-years	Dollars	Man-years
Maintenance	8,900	1.15	20,000	1
Management	5,900	.40	8,000	.5
Protection	6,700	.32	10,000	1
Recreation	2,200	.30	10,000	1
Populations Management	6,000	.60	10,000	1
Conservation Education	2,300	.25	20,000	2
SUBTOTAL	32,000	3.02	78,000	6.5
Soil and Moisture Conservation	—	—	2,000	.2
TOTAL	32,000	3.02	80,000	6.7

ESTIMATED DEVELOPMENT COST

	Existing	Projected
Water Facilities	$ 20,000	$ 55,000
Biological Development	10,000	15,000
Buildings	—	140,000
Fencing and Posting	1,000	5,000
Structures and Utilities	5,000	25,000
Recreational Development	70,000	837,000
TOTAL	$106,000	$1,077,000

ESTIMATED ANNUAL COST

	Present	Projected
Amortized development	$ 4,218	$ 47,622
Amortized acquisition	19,657*	36,489*
Operations	32,000	80,000
Payment to County	215	4,000
TOTAL	$56,090	$168,111
Cost-Benefit Ratio	1:3.57	1:2.97

*Costs reflect current assessed values amortized over a 50-year period for:

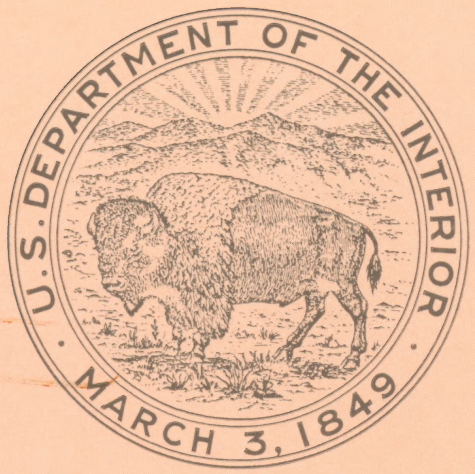
1. Existing refuge lands
2. State-owned lands scheduled in an exchange for other Federal lands
3. Public Domain and private lands within proposed boundary

Created in 1849, the Department of the Interior – America's Department of Natural Resources – is concerned with the management, conservation, and development of the Nation's water, fish, wildlife, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and Territorial affairs.

As the Nation's principal conservation agency, the Department works to assure that nonrenewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States – now and in the future.

This administrative plan proposed and prepared by the Bureau of Sport Fisheries and Wildlife's Southeastern Region, Atlanta, Georgia, supports and furthers the high objectives of the Department of the Interior for the wise development, management, and use of the lands, waters, and other resources of the National Wildlife Refuge System.

August 1967


U.S. DEPARTMENT OF THE INTERIOR
MARCH 3, 1849